

REMARKS**Summary of the Office Action**

In the Office Action dated March 12, 2003, claims 1-4 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for allegedly failing to particularly point out and distinctly claim the subject matter of the invention. Claims 1 and 3 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,399,489 B1 to M'Saad et al. (hereinafter "M'Saad") in view of U.S. Patent No. 6,207,553 B1 to Buynoski et al. (hereinafter "Buynoski"). Claim 2 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over M'Saad and Buynoski as applied to claim 1 above, and further in view of U.S. Patent No. 5,149,615 to Chakravorty et al. (hereinafter "Chakravorty"). Claim 4 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over M'Saad and Buynoski as applied to claim 1 above, and further in view of U.S. Patent No. 6,084,304 to Huang et al. (hereinafter "Huang").

Summary of the Response to the Office Action

Applicants have amended independent claim 1 to describe the invention differently. Applicants have added new claims 8-13. Accordingly, claims 1-13 are now pending in this application, with claims 5-7 being withdrawn from consideration. Applicants have also amended the specification at page 5, lines 21-23 to correct minor informalities.

Amendment to the Specification

Applicants have amended the specification at page 5, lines 21-23, to correct minor informalities. Specifically, Applicants have amended the paragraph beginning at page 5, line 21 of the specification to recite “a poly silicon gate 15 on a silicon substrate 11” rather than “a poly silicon gate 5 on a silicon substrate 1,” in accordance with the references recited in the drawings.

The Rejection under 35 U.S.C. § 112, second paragraph

Claims 1-4 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for allegedly failing to particularly point out and distinctly claim the subject matter of the invention.

Applicants have amended claim 1 to describe the invention differently. Independent claim 1, as amended, recites “a metal interconnect layer consisting of gold material covering the barrier layer region.” In light of this amendment, Applicants respectfully submit that claims 1-4 fully comply with the requirements of 35 U.S.C. § 112, second paragraph. Accordingly, Applicants respectfully request that the rejection of claims 1-4 under 35 U.S.C. § 112, second paragraph, be withdrawn.

The Rejections under 35 U.S.C. § 103(a)

Claims 1 and 3 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over M'Saad in view of Buynoski. Claim 2 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over M'Saad and Buynoski as applied to claim 1 above, and further in view Chakravorty. Claim 4 stands rejected under 35 U.S.C. § 103(a) as allegedly being

unpatentable over M'Saad and Buynoski as applied to claim 1 above, and further in view of Huang.

Applicants have amended independent claim 1 to describe the invention differently. To the extent that the rejection under 35 U.S.C. § 103(a) set forth above would be reapplied to this claim as amended, it is respectfully traversed as follows.

Independent claim 1, as amended, recites a semiconductor device comprising a first interconnect layer, an inter layer dielectric, a silicon nitride film, a metal interconnect layer and a planarized dielectric combination in the following arrangement:

a silicon nitride film formed so as to cover a whole surface of said inter layer dielectric; a metal interconnect layer covering said silicon nitride film, said metal interconnect layer being consisted of gold material.

Applicants respectfully submit that neither M'Saad nor Buynoski, whether taken singly or in combination, teaches or suggests the semiconductor device of the instant invention with at least the features of claim 1 recited above. Applicants respectfully submit that, in contrast to the instant invention as recited in claim 1, M'Saad discloses a structure where a gold layer 246 is deposited over polyimide. Furthermore, Buynoski discloses a structure wherein gold layer "METAL-5" is deposited over polyimide. Applicants further submit that Chakravorty and Huang fail to cure this deficiency of M'Saad and Buynoski with regard to the features recited in claim 1 of the instant invention and the disclosure at page 7, lines 6-19 of the specification in the application as filed.

In view of the foregoing, Applicants respectfully submit that independent claim 1, as amended, is allowable as patentable over M'Saad in view of Buynoski. Applicants further submit that dependent claims 2-4 should be allowed at least because of their respective

dependence upon allowable claim 1. Accordingly Applicants respectfully request that the rejections of claims 1-4 under 35 U.S.C. § 103(a) be withdrawn.

Newly Added Claims 8-13

Applicants have added claims 8-13. Applicants respectively submit that no new matter is being introduced in these claims as they are supported by the disclosure in the specification and drawings as filed.

Newly added independent claim 8 recites a semiconductor device comprising:

a first interconnect layer covering a first portion of a surface of a functional semiconductor region; an inter layer dielectric covering a second portion of the surface of the functional semiconductor region and a portion of a surface of said first interconnect layer, thereby forming a contacting hole on the surface of the first interconnect layer; a silicon nitride film covering an entire surface of said inter layer dielectric around the contacting hole on the surface of the first interconnect layer; a barrier layer covering the contacting hole and a portion of a surface of the silicon nitride film around the contacting hole, thereby forming a barrier layer region; a metal interconnect layer consisting of gold material covering the barrier layer region, thereby forming a metal interconnect region; and a planarized dielectric covering the metal interconnect layer and the silicon nitride surface around the metal interconnect region.

Applicants respectively submit that neither M'Saad, nor Buynoski, nor Chakravorty, nor Huang, whether taken singly or in combination, teaches or suggests the semiconductor device of the instant invention with at least the features of claim 8 recited above. Applicants further submit that dependent claims 9-13 are allowable for at least the same reasons as claim 8 upon which they depend.

Conclusion

In view of the foregoing, Applicants respectfully request reconsideration and reexamination of this application, withdrawal of all rejections and objections, and the timely allowance of all pending claims. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative to expedite prosecution.

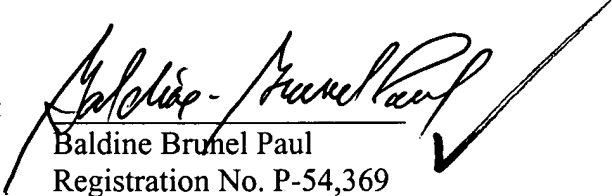
If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

MORGAN, LEWIS & BOCKIUS LLP

Dated: July 14, 2003

By:


Baldine Brunel Paul
Registration No. P-54,369

Customer No. 09629

MORGAN, LEWIS & BOCKIUS LLP

1111 Pennsylvania Avenue, N.W.

Washington, DC 20004

202-739-3000 (Phone)

202-739-3001 (Fax)